SCIENTIFIC PAPER

Preoperative Upper Endoscopy is Useful Before Revisional Bariatric Surgery

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ABSTRACT

Background and Objectives: We hypothesized that patients who have previously had bariatric surgery and are undergoing revision to laparoscopic Roux-en-Y gastric bypass would have abnormal findings detected by upper endoscopy that could potentially influence patient management. The procedures that are being revised include vertical banded gastroplasty, laparoscopic adjustable gastric bands, nonadjustable gastric bands and previous Roux-en-Y gastric bypass (open and laparoscopic).

Methods: We conducted a retrospective chart review of patients who previously had undergone vertical banded gastroplasty or nonadjustable gastric banding. We preoperatively performed an upper endoscopy on all patients. The endoscopy reports were reviewed and the findings entered into a database.

Results: Eighty-five percent of 46 patients undergoing revisional bariatric surgery had an abnormal upper endoscopy. Eleven percent had a gastrogastric fistula. Gastritis and esophagitis were noted in 65% and 37%, respectively. Eleven percent of patients had band erosion, 2 from a nonadjustable band, and 5 from vertical banded gastroplasties. Based on our findings, 65% of our patients required medical treatment.

Conclusions: Preoperative upper endoscopy provides valuable information before revisional laparoscopic bariatric surgery. In addition to identifying patients who need preoperative medications, the preoperative upper endoscopy also provided valuable information regarding pouch size and anatomy. Preoperative upper endoscopy should be performed by the operating surgeon on every patient undergoing revisional bariatric surgery.

Key Words: Endoscopy, Bariatric surgery, Revisional surgery, Gastrogastric fistulae.

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INTRODUCTION

As bariatric surgery becomes one of the most common general surgical procedures, a concomitant increase in revisional bariatric surgery is also being seen.[1,2] Patients who have had a vertical banded gastroplasty (VBG), nonadjustable gastric banding (sometimes known as the Molina band), and laparoscopic adjustable bands with failure of weight loss or weight gain often present for revision to laparoscopic Roux-en-Y gastric bypass (LRYGB).[3] Patients who have had a VBG commonly complain that they have regained all of their presurgery weight and also complain of reflux.[4] Nonadjustable gastric bands (NAGB) receive similar complaints and can also have erosion of the mesh band into the lumen of the stomach.[5] Laparoscopic adjustable band patients are often frustrated with the slow weight loss and may also have erosion of the band.[6,7] All of these patients have legitimate reasons to be considered for LRYGB.

Performing revisional operations from VGB or nonadjustable gastric bands is often very difficult and time consuming. Often the patient has dilation of the upper stomach above the band. Gastrogastric fistula is also common with the VBG and can complicate the reoperation. The band may also have eroded into the lumen of the stomach. These conditions are managed best when diagnosed preoperatively.

In our practice, we have performed over 46 revisional bariatric surgeries. Our policy was to perform upper endoscopies on all patients before surgery. We hypothesized that the patients undergoing revisional surgery would have a high rate of abnormal findings that could influence our preoperative or operative management, or both.

METHODS

We conducted a single institution, retrospective chart review of patients undergoing revisional bariatric surgery from 2003 to 2005. Two surgeons performed all the procedures with the assistance of a fellow. All of the patients had either a VBG or nonadjustable gastric band. The endoscopy reports of these patients were reviewed and an Excel spreadsheet was used to analyze the data. The

findings included normal, gastritis, esophagitis, band erosions, and gastrogastric fistulae.

RESULTS

An abnormal upper endoscopy was identified in 85% of 46 patients evaluated for revisional bariatric surgery. A gastrogastric fistula was found in 11%. All patients with a gastrogastric fistula had previously had a VBG, with disruption of the staple line. Gastritis and esophagitis were noted in 65% and 37%, respectively. Twenty-two percent of patients had both gastritis and esophagitis. Eleven percent of patients had band erosion, 2 from a nonadjustable band, and 5 from vertical banded gastroplasties. Based on our findings, medical treatment was required in 65% of our patients. The medical treatment usually consisted of proton pump inhibitors or treatment for *Helicobacter pylori*. All patients went on to successful laparoscopic conversion to Roux-en-Y gastric bypass. In our series of 46, there was one leak, no pulmonary emboli, and no deaths. There were also no conversions to an open procedure.

DISCUSSION

Undertaking a conversion or revision of a previous bariatric surgery to a Roux-en-Y gastric bypass can be hazardous and demanding. In nonadjustable gastric bands, the patients often have an intense adhesive reaction to the mesh band, and the left lobe of the liver is stuck down to the stomach.[8] Once the band is removed, it can be difficult to create the upper gastric pouch. There should be at least 2cm to 3cm of length to minimize the chance of an esophagojejunal anastomosis. For the VBG, we have found that the scar reaction of the stomach to the liver is not as great as with the nonadjustable band, but dividing the previous staple line can be a risky undertaking. The presence of a gastrogastric fistula usually means that the stomach will be thickened and inflamed. In revisions of both procedures once the pouch is made, the rest of the procedure is relatively straightforward.

The findings of esophagitis and gastrogastric fistulae are not surprising in the VBG group; these complications have been well described.[3,8,9] Another finding that was not easy to quantify was the presence of pouch distension after these banding procedures. This study did not quantify pouch distension, but that information probably would not make a difference in the reoperative approach. Gastritis was also a common finding with resulting treatment with either H2 blockers or proton pump inhibitors. Our incidence of 11% band erosions was problematic. We were able to successfully remove one NAGB, and 2 bands from VBGs endoscopically, but the inability to do so does not preclude reoperation. A gastrogastric fistula can mean that the stomach is thickened and inflamed, and the operation may need to be modified in response. In particular, staple load size and the type of staple buttressing may change.

The main shortcoming of this study is its retrospective nature. Ideally, a control group without endoscopy would be compared in a prospective manner. However, as reoperative surgery has greater inherent risks to the patient, it is unlikely that a prospective, randomized trial will be performed.

We believe that if operating surgeons perform their own preoperative endoscopy, valuable information can be obtained. We realize that it may not be possible for every surgeon to perform their own endoscopies, but do believe that ideally, the operating surgeon would be the endoscopist. The size of the preexisting gastric pouch is very important to note. The amount of gastritis and esophagitis influences preoperative medical management. The presence of a gastrogastric fistula can change the operative approach. Eroded bands can be problematic, and in 3 instances, we were able to remove them completely endoscopically, as has already been described in the literature.[4] No complications were encountered from performing upper endoscopy in our series, and upper endoscopy is generally a well-tolerated, low-risk procedure. With the information gathered during endoscopy by the surgeon preoperatively, the operation can be planned and executed in a smooth, safe manner.

CONCLUSION

Preoperative upper endoscopy provides valuable information before revisional laparoscopic bariatric surgery. In addition to identifying patients who need preoperative medications, the preoperative upper endoscopy also provided valuable information regarding pouch size and anatomy. Preoperative upper endoscopy should be performed by the operating surgeon on every patient undergoing revisional bariatric surgery.

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